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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/090,013 06/03/98 SATO

T P/29-920

EXAMINER

LM01/1209

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ART UNIT

PAPER NUMBER

2745

DATE MAILED:

12/09/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action SummaryApplication No.
09/090,013

Applicant(s)

Sato

Examiner

Duc Nguyen

Group Art Unit

2745☐ Responsive to communication(s) filed on _____.☐ This action is **FINAL**.☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims☒ Claim(s) 1-24 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.☒ Claim(s) 1-24 is/are rejected.☐ Claim(s) _____ is/are objected to.☐ Claims _____ are subject to restriction or election requirement.**Application Papers**☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.☐ The drawing(s) filed on _____ is/are objected to by the Examiner.☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.☐ The specification is objected to by the Examiner.☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119**☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been☒ received.☐ received in Application No. (Series Code/Serial Number) _____.☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)**☒ Notice of References Cited, PTO-892☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____☐ Interview Summary, PTO-413☒ Notice of Draftsperson's Patent Drawing Review, PTO-948☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 151072, filed on 6/9/97.

Claim Objections

2. Claim 5 is objected to because of the following informalities: "is" in line 4 of claim 5 should be changed to "are". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims **18, 23** are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The claims recites "said base station stops transmission when an error in the sub-signal is detected" which contradicts to the disclosure of the specification (see page 16, lines 20-24) and was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

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Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

6. Claims 1-3, 7-9, 13-14 are rejected under 35 U.S.C. 102(a) as being anticipated by **Douzono et al** (US Patent No. 5,574,983).

Regarding claims 1, **Douzono** discloses a cellular system using a direct spread code division multiple access system, in which a mobile station performs soft handover with plural base stations (see **Figure 5** and **col. 4, line 50 - col. 10, line 55**), said mobile station comprising:

- downward reception quality monitoring means for monitoring reception quality of downward signals from the plural base stations that are in the soft handover state (see col. 6, lines 27-41);

- base-station specifying means for sending a signal to specify a base station or stations to transmit according to the result of monitoring the reception quality of the plural downward signals (inherently included in order for a mobile station to set up connection with a base station, see col. 6, lines 27-41);

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- multiplexing means for multiplexing the base-station specify signal into an upward signal to be sent to said plural base stations (see col. 6, lines 11-41); and
- reception means for performing combined reception of receive signals from said plural base stations that are in the soft handover state (see col. 6, lines 52-56), and said base stations each comprising:
 - demodulation means for demodulating the base-station specify signal multiplexed in the upward signal (see col. 5, lines 1-40); and
 - transmission control means for controlling transmission of a downward transmit signal to a corresponding mobile station according to the demodulated base-station specify signal (see col. 5, lines 1-43 and col. 6, lines 29-32).

Regarding claim 2, it is rejected for the same reason as set forth in claim 1 above. In addition, **Douzonou** discloses said mobile station measures reception quality using a pilot channel transmitted from each of said base stations to all the mobile stations constantly (see col. 6, lines 27-41).

Regarding claim 3, it is rejected for the same reason as set forth in claim 1 above. In addition, **Douzonou** discloses said transmission control means of said base station stops transmission when the base-station specify signal is not directed to its own base station (see col. 6, lines 27-41).

Regarding claims 7-9, the claims are interpreted and rejected for the same reason as set forth in claims 1-3 above.

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Regarding claim **13-14**, the claims are interpreted and rejected for the same reason as set forth in claims **1, 3** above.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims **4, 10, 15** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Douzonou** in view of **Wang et al** (US Patent Number **5,721,733**).

Regarding claim **4**, it is rejected for the same reason as set forth in claim **1** above. However, **Douzonou** fails to clearly disclose the case wherein when a transmission error in the base-station specify signal is detected, said transmission control means of said base station performs transmission. However, when a transmission error in the receiving signal is detected, it would have been obvious for a base station to either perform a transmission as a feedback to notify the sending unit of the error, or to stop a transmission to save a resource because the communication might not be established anyway due to the transmission error. Further, **Wang** discloses a method wherein a transmitter transmits if the sensed power of other transmissions is

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weak, otherwise, the transmitter back-off (see col. 8, lines 6-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the above teachings of **Wang** and **Douzonou** for providing a method as claimed, to insure that a base station would perform the transmission unless it is told not to do so clearly, for avoiding possible drop-outs of a communication.

Regarding claims **10, 15**, the claims are interpreted and rejected for the same reason as set forth in claim **4** above.

9. Claims **5, 11** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Douzonou** in view of **Wang et al** (US Patent Number **5,721,733**).

Regarding claim **5**, it is rejected for the same reason as set forth in claim **1** above. However, **Douzonou** fails to disclose said mobile station specifies plural base stations when the differences of downward reception quality of all the base stations are smaller than a predetermined value. However, **Bruckert** discloses a soft handoff method wherein a mobile station specifies a plural base stations when the differences of downward reception quality of base stations are smaller than a predetermined value (see col. 3, line 49 - col. 4, line 11), for avoiding wasted power and resources. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the above teachings of **Bruckert** and **Douzonou** for providing a method as claimed, for avoiding wasted power and resources if the differences of downward reception quality of base stations are greater than a predetermined value.

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Regarding claim 11, the claim is interpreted and rejected for the same reason as set forth in claim 5 above. In addition, it would have been obvious that the base station with the best signal quality is inherently selected by the mobile station.

10. Claims 6, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable by **Douzonou**

Regarding claim 6, it is rejected for the same reason as set forth in claim 1 above. However, **Douzonou** fails to clearly disclose the case wherein when downward reception quality of all the base stations is smaller than a predetermined value, said base station specifying means of said mobile station specifies plural base stations. However, it would have been obvious for the mobile to specify at least one base station (with the best quality) to prevent drop outs of the communication. Further, **Douzonou** discloses that in the soft handover, the bit error rate improves as the number of base stations simultaneously in communication increasing (see col. 10, lines 8-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the above teaching of **Douzonou** for providing a method as claimed, to improve the bit error rate by specifying a plural base stations since there is not available any base station with a strong signal and also to prevent drop-outs of a communication.

Regarding claim 12, the claim is interpreted and rejected for the same reason as set forth in claim 6 above.

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11. Claims **16-24** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Douzonou** in view of **Kanai** (US Patent Number **5,898,682**) and **Rahman** (US Patent Number **5,933,777**).

Regarding claim **16**, the claim is interpreted and rejected for the same reason as set forth in claim **1** above. However, **Douzonou** fails to disclose said base stations generate a transmission halt signal indicating whether or not transmission of downward signals from its own station are to be halted in accordance with the demodulated sub-signal. However, controlling of a hand-off situation at base stations rather than at the mobile station is known in the art as disclosed by **Kanai** (see Fig. 3). Further, **Rahman** discloses a method wherein a mobile station transmits a sub-signal composed of the monitoring results and signals indicative of base stations corresponding to the respective results, and a radio network controller connecting to base stations uses the monitoring results to control which base stations provide coverage for the mobile station (see col. 5, line 14 - col. 6, line 56). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the above teachings of **Kanai**, **Rahman** and **Douzonou** for providing a method as claimed, for controlling hand-off situations at base stations.

Regarding claim **17**, it is rejected for the same reason as set forth in claim **16** above. In addition, **Douzonou** as modified would disclose said mobile station measures reception quality using a pilot channel transmitted from each of said base stations to all the mobile stations constantly (see **Rahman**, col. 5, lines col. 7, lines 19-45).

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Regarding claim **18**, it is rejected for the same reason as set forth in claim **16** above. In addition, the Examiner take Official Notice that stopping a transmission to save a resource when detecting transmission errors in the receiving signal is known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify the above teachings of **Kanai, Rahman** and **Douzonou** for providing a method as claimed, to save resources when detecting transmission errors.

Regarding claim **19**, it is rejected for the same reason as set forth in claim **16** above. In addition, **Douzonou** as modified would disclose said transmission halt signal generating means does not output the transmission halt signal when downward reception quality of all the base stations is smaller than a predetermined value and the quality of downward signals from its own station is ranked more than a predetermined grade (see **Rahman**, col. 5, lines col. 7, lines 19-45).

Regarding claims **20, 22**, the claims are interpreted and rejected for the same reason as set forth in claim **16** above.

Regarding claim **21**, the claim is interpreted and rejected for the same reason as set forth in claim **17** above.

Regarding claim **23**, the claim is interpreted and rejected for the same reason as set forth in claim **18** above.

Regarding claim **24**, the claim is interpreted and rejected for the same reason as set forth in claim **19** above.

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Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Tanaka** (US Patent Number 5,845,212), Optimum power and handover control by cellular system mobile unit.

- **Takai et al** (US Patent Number 5,771,451), Method of transmission power control in a cellular mobile communication system and apparatus thereof.

- **Abreu et al** (US Patent Number 5,754,956), Methodical scanning method and apparatus for portable radiotelephones.

13. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

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or faxed to:

(703) 308-9051 (for formal communications intended for entry)

or:

(703) 305-9508 (for informal or draft communications, please label

"PROPOSED" or "DRAFT")

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Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or communications from the examiner should
be directed to Duc Nguyen whose telephone number is (703) 306-4531.

Any inquiry of a general nature or relating to the status of this application should be
directed to the Group receptionist whose telephone number is (703) 305-3900.

Duc Nguyen

DN

Dec 3rd, 1999

Nguyen Vo

12/6/99

**NGUYEN VO
PRIMARY EXAMINER**